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ABSTRACT

A federally funded research study, Project Equality, employed nonsexist teaching materials and inservice teacher training to expand the occupational and social role perceptions of pupils. Ninety-one volunteer pilot group teachers and their K-6 classes, representing a socioeconomically varied school district in Seattle, Washington, participated in the study. The teachers attended an introductory workshop. They were encouraged to examine and use nonstereotyped materials such as books and films, occupational simulation packets, and speakers, and participate in additional workshops. At the outset, the 91 teachers and 16 comparison teachers with no special background were given a Teacher Tendency to Stereotype Questionnaire in order to determine the effect of project participation on attitudes and the relationship between teacher attitudes and amount of pupil attitude change. Pupil attitudes were measured pre- and posttreatment by paper and pencil tests asking about participation by sexes in various activities and occupations. Residualized gain scores were used in calculating average gain by classroom. These show that (1) pilot group and comparison group teachers were not significantly different in stereotypic attitudes; (2) teacher classroom behavior correlated positively with pupil attitude change for grades K-2, but not significantly for grades 3-6; and (3) pilot group girls in grades K-2 showed less positive attitude change than boys, but girls in grades 3-6 showed more positive attitude change than boys. (AV)

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EXPANDING ELEMENTARY PUPILS' OCCUPATIONAL AND SOCIAL ROLE PERCEPTIONS: AN INNOVATIVE FEDERAL PROJECT

THE PROBLEM

We in social studies education have, as part of our special mission, the goal of developing individuals who possess the specific knowledge, skills, and attitudes needed to participate in a true democracy. To the extent that we in social studies teach or condone sex discrimination and stereotyping, we will fail in our mission. Students who perceive history as the story, quite literally, of man and his world will not possess an accurate nor comprehensive knowledge of the development of all of humankind. Students who learn leadership skills if they are males and secretarial skills if they are females will not be educated to achieve their own unique human potential. Students who, with the help of textbooks, curriculum content, teachers, and school organization, acquire sex stereotyped attitudes will never be free to make rational decisions.

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The study to be described examines one approach to solving this immediate national educational problem, sexism in the schools, in a natural and on-going school setting. Specifically, it is a study of a federally funded project, Project Equality, which was undertaken in one school district in the state of Washington. Project Equality was designed to develop non-sexist teaching materials and strategies, to help classroom teachers to become aware of their own sex bias, to train in-service teachers in methods to combat sexism in their classrooms, and ultimately to change pupils' sex-stereotyped perceptions of occupational and social roles.

METHOD

Subjects

This study examined the outcomes, on elementary teachers and their pupils of an innovative project, Project Equality, designed to change sex-stereotyped attitudes and behaviors. Project Equality began on July 1, 1973 as a three-year federally funded project (Title III of the Elementary and Secondary Education Act) in the Highline Public School District, Seattle, Washington. The project was funded (for approximately $180,000) as an innovative occupational awareness project and had as a main goal to expand the occupational and social role perceptions of pupils.

The Highline School District is situated in a major suburban community of Seattle which has an estimated population of 129,000 residents. The economic base of the residents of the Highline District ranges from lower-upper class homes in distinct areas to a large area of lower-class homes on one perimeter of the district. Approximately 21% of the students come from homes which meet the poverty criteria as outlined by the Office of Economic Opportunity. Most of the remaining students come from either blue-collar or middle-class and professional homes. Approximately 60% of the graduating high school students from the Highline District enter either a junior college or a four-year college. Highline District is the fourth largest school system in the state of Washington, with approximately 26,000 students.

While Project Equality, in its entirety, encompassed all subject areas and all grade levels (K - 12), the present investigation was limited to the elementary grades (K - 6). At the elementary level there were 91 Pilot teachers who were in one of 10 pilot elementary schools.

Pilot teachers who participated in the project were self-selected. In the Spring of 1974, Project Equality staff presented half-day teacher workshops

which focused on the nature and extent of sex bias in public education and which outlined the goals and objectives of Project Equality toward reducing sexism in Highline District schools. Teachers in 16 of Highline District's 33 elementary schools attended one of 16 half-day workshops. After participating in a workshop, on a school-wide basis, teachers were polled by their building principal as to whether or not they wished to volunteer to become a Pilot teacher. A Pilot teacher was expected to attend teacher workshops, to pretest and posttest pupils in his or her classroom, and to attempt, during the interim between pretest and posttest, to change pupils' sex-stereotyped attitudes particularly with regard to appropriate occupations for males and females. If at least 50% of the teachers in a particular elementary school volunteered to be Pilot teachers, then that school was established as a Pilot school and the volunteer teachers became part of the project. If less than 50% of the teachers volunteered, none of the teachers in the building received any further instruction or materials from Project Equality. Of the 16 schools whose teachers attended an introductory workshop, 10 schools were established as Pilot schools with a total of 91 initial volunteer Pilot teachers.

Sixteen Comparison teachers were selected for the study; none of these teachers had attended an introductory workshop in the Spring of 1974. The Project Equality director asked principals, in 10 elementary schools which were similar to the 10 pilot schools on a Title I assessment of reading and math achievement, to select 2 - 3 teachers at specific grade levels to participate in the pretest-posttest of students. No criteria, other than grade level, were established for the selection of specific teachers by building principals. This procedure, non-random selection of Comparison teachers, introduced a major source of bias into the study.

Instruments

An anticipated teacher outcome of the project was that teachers within pilot schools would exhibit less sex bias in their views of occupational and social roles, as a result of their participation in the project, than would teachers in comparison schools. As a measure of teacher attitudes, this study included in its design a measure of teacher attitudes regarding the personality traits of ideal adult males and ideal adult females.

A modified version of the Stereotype Questionnaire (as developed by Rosenkrantz, Vogel, Bee, Broverman, & Broverman, 1968)[1] was used to measure the extent of teacher stereotyping of ideal adult females and ideal adult males. Rosenkrantz et al., from an original list of 122 bipolar personality trait items (e.g., not at all aggressive/very aggressive, very sneaky/very direct, very tactful/very blunt), determined 38 bipolar items on which there was 75% agreement both by male and female subjects as to which pole was more masculine and which more feminine.

In the Rosenkrantz et al. study the directions to the subjects were as follows: "Imagine that you are going to meet a person for the first time and the only thing you know in advance is that the person is an adult male (female)."

In the modified version used in this study, the following instructions were given:

> Imagine the boys in your class as adults. Ideally, to what extent would you hope that, as men, they would be characterized by each of the following traits?
>
> For each trait scale, put a slash (/) according to what you think an ideal adult male should be like. You may put your slash anywhere on the scale, not just at the numbers.

The questionnaire consisted of two complete sets of the 38 bipolar items. At the end of the first set of 38 items, the teachers were instructed to characterize the girls in their class as ideal females on the next set of 38 bipolar

items. To the extent that a teacher's ideal male did not differ from her or his ideal female, the teacher was said to be non-stereotyped in his or her attitudes. The measure of teacher attitudes was a posttest only; consequently, statements were not possible regarding teacher attitude change associated with participation in Project Equality.

The results on the Teacher Tendency to Stereotype Questionnaire were used in three ways:

1. To test the outcome of participation in Project Equality on sex-stereotyped attitudes by comparing questionnaire results for Pilot teachers with results for Comparison teachers.
2. To test the relationship between positive teacher attitudes and the amount of related classroom behavior directed toward changing pupils' attitudes (i.e., the amount of treatment presented to pupils in the classroom).
3. To test the relationship between teacher attitudes and amount of pupil attitude change (as measured by a pupil attitude pretest-posttest).

An anticipated pupil outcome was that boys and girls in the pilot classrooms would perceive social roles, occupations, and common skills with less sex bias than their counterparts in comparison classrooms as a result of the activities which made up Project Equality. In each pilot classroom the treatment consisted of all of the activities which the teacher chose to initiate with regard to the goal of expanding the occupational and social role perceptions of the pupils. The teachers were given many options including attending workshops; ordering non-sexist books and films (for teacher and/or student use); bringing in speakers who had been recruited for a speakers bureau; using project developed occupational simulation packets; initiating class discussions based on pictures of adults in non-stereotyped occupations, on phono-

graph records which presented alternatives for the sexes, on examples from school texts and materials which were sexist. In addition, teachers were encouraged to supplement the provided materials and suggested activities in any way. No single course or amount of treatment was required in a pilot classroom. It is quite obvious that, as a result of this procedure, the nature and amount of treatment could vary widely from pilot classroom to pilot classroom.

The study provided for the administration, to Pilot and Comparison teachers, of an instrument designed to measure the self-reported nature and extent of treatment presented to pupils. As a result of talking with the Project Director and related staff, attending Pilot teacher workshops, reviewing the project proposals, examining the project evaluations to date, reading printed materials intended for teacher use, and coding the entries in the teacher-kept journals, a check-list of possible classroom activities was developed to be used in measuring each teacher's behavior during the interim from pupil pretest to pupil posttest.

The resulting data provided information in two areas of interest:

1. Documentation of the extent to which teachers who volunteered to participate in the project used the services and resources made available to them and of the extent to which they went beyond the project materials and suggested activities.

2. Examination of the relationship between the amount of treatment presented by an individual teacher and the amount of pupil attitude change (as measured by a pretest-posttest developed and administered by Project Equality).

Pupil attitudes were measured pre and post treatment by two paper and pencil tests developed by Project Equality staff and testing consultants. Pi-

lot and Comparison pupils were pretested in early October, 1974 and posttested, approximately five months later, in mid-March, 1975. Tests were administered by the pupils' regular classroom teachers.

The "Who Should" test consists of 40 items (26 for grades K - 12). Each item consists of an occupation (airplane pilot, doctor, nurse, secretary, etc.), or an activity (mow the lawn, wash the dishes, [illegible]er, play football, etc.), and a three-choice response:

A. Only a man (or boy) should do the job.

B. Both men and women should do the job.

C. Only a woman (or girl) should do the job.

An item is scored 1 if the respondent indicates "Both men and women should do the job"; an item is scored 0 for any other response. Thus a high score indicates a relative lack of sex-stereotyped responses.

The "Attitude Toward Women" test was administered in grades 3-6 only. The test consists of 30 true-false-undecided items. Pupils respond to items such as:

Boys who play with dolls are sissies.

Fathers should do all the repair jobs around the home.

Girls should be strong.

It's a mother's job to cook and clean for the father and children, even if she works all day at a paying job.

Each non-stereotyped response is scored 1; a stereotyped or undecided response is scored 0. Here again, a high score indicates a relative lack of sex-stereotyped responses.

Pupil attitude change, from pretest to posttest, was determined by the use of residualized gain scores. Residualized gain scores ($\hat{Y} - Y$) were computed for each pupil by simple linear regression using the Pretest score (X) to predict the Posttest score ($\hat{Y}$) and then finding the difference between the actual

posttest score (Y) and ($\hat{Y}$). Residualized gain scores for individual pupils could then be used to calculate average gain by classroom.

Research Hypotheses

1. Pilot teachers will be less stereotyped than Comparison teachers in their descriptions of ideal adult males and ideal adult females.

2. There will be a positive correlation between a teacher's non-sexist attitudes (i.e., relative lack of tendency to stereotype by sex) and a greater amount of classroom behavior directed toward changing pupils' attitudes.

3. There will be a positive correlation between a teacher's non-sexist attitudes and the amount of positive pupil attitude change as measured on the "Who Should" and on the "Attitude Toward Women" Pretest-Posttests.

4. There will be a positive correlation between the amount of teacher classroom behavior directed toward changing pupils' attitudes and the amount of positive pupil attitude change as measured on the "Who Should" and on the "Attitude Toward Women" Pretest-Posttests.

5. Pilot girls will show more positive attitude change than Pilot boys as measured on the "Who Should" and on the "Attitude Toward Women" Pretest-Posttests.

6. Pilot pupils in grades 3 - 4 will show more positive attitude change than Pilot pupils in grades 5 - 6 on the "Who Should" and on the "Attitude Toward Women" Pretest-Posttests.

FINDINGS AND CONCLUSIONS

Findings

The major findings of this study are summarized as follows:

1. Pilot teachers were not significantly different than Comparison teachers in the amount of discrepancy between the traits by which they described their ideal adult female as compared to their ideal adult male. As a

group, neither the Pilot nor the Comparison teachers stereotyped their ideal adult on the basis of sex.

2. Both Pilot and Comparison teachers described their ideal adult male and ideal adult female as characterized by a combination of stereotypic "masculine" and "feminine" traits and by a combination of socially valued and not socially valued traits, as determined in previous studies of widely held attitudes.

3. Pilot teachers reported significantly more classroom behavior directed toward changing pupil attitudes than did Comparison teachers ($p = .01$).

4. Considering the nature, quantity, quality, and availability of resources for use by Pilot teachers, volunteer Pilot teachers were judged to have done relatively little in their classrooms, on the average, to attempt to change pupils' sex biased attitudes during the five month interval from pupil pretest to posttest.

5. There was no significant correlation between teacher attitudes (i.e., the tendency to stereotype ideal adults by sex) and amount of teacher classroom behavior directed toward changing pupils' sex stereotyped attitudes.

6. There was no significant correlation between teacher attitudes and amount of pupil attitude change, at any grade level, on either of the two measures of pupil attitudes.

7. There was a significant positive correlation ($r = .56$, $p = .001$) between teacher classroom behavior (the amount of treatment presented to pupils) and amount of positive pupil attitude change for grades K - 2.

8. There was no significant correlation between reported amount of classroom treatment and amount of pupil attitude change for grades 3 - 6, on either of the two measures of pupil attitudes.

9. Pilot girls, in grades K - 2, showed significantly less positive attitude change than did boys ($p<.001$). This significant difference was in the

opposite direction from that which had been predicted on the basis of the review of the literature.

10. Pilot girls, in grades 3 - 6, showed significantly more positive attitude change than did boys, on both measures of pupil attitudes ($p < .004$).

11. Pilot pupils, in grades 3 - 4, showed significantly more attitude change on the "Attitude Toward Women" Pretest-Posttest, than did Pilot pupils in grades 5 - 6 ($p = .001$). No significant difference in amount of pupil attitude change, by grade level, was found on the "Who Should" Pretest-Posttest.

Conclusions

While lack of random assignment of teachers to pilot and comparison groups makes it impossible to make definitive statements about the effect of participation in Project Equality on teacher and pupil attitudes, many findings suggest that there was some positive effect.

Sex-role stereotypes have been shown, in numerous studies, to be very pervasive and to have changed little over time. While research results published in the last two years have shown some change in traits of ideal adults and social desirability of traits, the teachers in Project Equality are by far the least stereotyped subjects tested to date in their concepts of ideal adults. But some caution should be observed in comparing the data on teacher attitudes and college student attitudes. Teachers were asked to describe by which traits they hoped the students in their classroom would be characterized as adults. Perhaps it is less threatening to describe a future adult as non-stereotyped than it is to describe a contemporary adult (potential mate or friend?) as non-traditional. On the other hand, teachers in the study represent an older population than college students, and yet they were found to have much less stereotyped and less traditional attitudes.

The findings of a significant positive correlation ($r = .56$) between amount

of pupil attitude change, grades K - 2, is encouraging. While there was no significant relationship between treatment and attitude change for grades 3 - 6, it was found that teachers in grades 3 - 6 reported giving significantly less treatment than did teachers in grades K - 2.

Significant differences in amount of pupil attitude change by sex of pupil and by grade level, for most of the measures, are indicative of an effective treatment. While the average amount of treatment presented by teachers is judged to have been minimal, given the resources made available to them, the finding of differential effect by sex and grade level supports the notion that teacher intervention, be it even minimal, has some effect on changing pupils' sex stereotyped attitudes.

No conclusions, even the most tentative, seem warranted about the relationship of teacher attitudes and pupil attitudes and of teacher attitudes and teacher behavior. These are important areas for future investigation as more and more school districts develop teacher in-service programs directed toward changing teacher attitudes and classroom behavior.

The minimal use by volunteer teachers of attractive (and expensive) resources needs further study. In this study, "minimal use" refers to low utilization of available resources. A more meaningful approach would be to determine how to achieve optimal use of minimal resources to effectively achieve desired goals. This question remains unanswered.

The self-selection of Pilot teachers has been discussed as a major limitation to the interpretation of findings. Although self-selection of teachers presents a serious research design problem, it reflects the true nature of the educational process in America. Sexism in the schools will not end by mandate any more than racism has. While principals, school districts, and state departments of education may draw up guidelines to end sex bias, teachers will, to a

large extent, always self-select to change or not to change their classroom behavior and associated attitudes.

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[1] Rosenkrantz, P., Vogel, S., Bee, H., Broverman, I., and Broverman, D. Sex role stereotypes and self concepts in college students. Journal of Consulting and Clinical Psychology. 1968, 32, 287-295.